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GAATTCTGTGCCCTCACTCCCCTGGATCCCTGGGCAAAAGCCCCAGAGGGAAACACAAACAGGTTGTTGTA  
ACACACCTTGCTGGGTACCAACATGGAGGACAGTTGGCTTATGGGGGTGGGGGTGCTGGGGCCACGGA  
GTGACTGGTGATGGCTATCCCTCCCTTGAACCCCTCCAGCCCTCCTCTTAGCTTCAGATTTGTTATTGT  
TTTTTACTAAGACCCTGCTCTTTCAGGTCTGTTGGCTCTTTTAGGGGCTGAAGAAAGCCGAGTTGAGAAGG  
GATGCAAGGAGGGGGCCAGATGAGCCCTTAGGGCTCAGAGCCCTCCATCCTGCCCAAGATGCTCTACAG  
CTTGTGCTCCTGGGGTGCTAGAGGCGCACAAAGGAGAAAGTTAGTGCTTCCCTTCCATATCCCGTTTCAT  
CAGCCTAGAGCATGGAGCCCAGGTGAGGCGCTGCCCTGGGAGGGGCCCTGAGCCAGGAAATAAACATT  
TACTAACTGTACAAAGACCTTGTCCTGCTGCTGGGAGCCCTGCCAAGTGGTGAGACAGGACTAGTGCA  
CGAATGATGGAAAGGGAGGGTTGGGGTGGGTGGGAGCCAGCCCTTTTCCTCATAGGGCCTTAGGACACC  
ATACCGATGGAACTGGGGGTACTGGGGAGGTAACTAGCACCTCCACCAAAACCACAGCAACATGTGCTGA  
GGATGGGGCTGACTAGGTAAGCTCCCTGGAGCGTTTGGTTAAATTGAGGGAAATTGCTGCATTTCCCAT  
CTCAGTCCATGCCCTCCACAGAGGCTATGCCAGCTGTAGGCCAGACCCCTGGCAAGATCTGGGTGGATAATC  
AGACTGACTGGCCTCAGAGCCCCAACTTTGTTCCCTGGGGCAGCCCTGGAAATAGCCAGGTCAGAAACCAG  
CCAGGAATTTTCCAAAGCTGCTTCCTATATGCAAGAAATGGGATGGGGGCCCTTTGGGAGCACTTAGGGAAG  
ATGTGGAGAGTTGGAGGAAAGGGGGCTTGGAGGTAAGGGAGGGGACTGGGGGAAGGATAGGGGAGAAGC  
TGTAGCCTGGAGAGTAGCCAAAGGATCCTGAGGGAATGGGGAGCTGAGACGAAACCCCATTTCTAT  
TCAGAAAGATGAGCTATGAGTCTGGGCTTGGCTGATAGAAGCCTTGGCCCTTGGCTGGGAGCTCTG  
GGCAGCTGGCCTACAGACGTTCCCTAGTCTGGCGGGTAGGTTGAATCATCAGCAGGCCCTGGCCTCC  
ACCCGCCCCCAGCCCCCTGGCCTCAGTTCCCTGGCAACATCTGGGGTTGGGGGGCAGCAGGAACAA  
GGGCCTCTGTCTGCCCAGCTGCCTCCCCCTTTGGGTTTGGCAGACTCCACAGTGCATACGTGGGCTCCA

FIG. 1A

ACAGGTCCTCTTCCCTCCAGTCACTGACTAACCCCGGAACACACAGCTTCCCGTTCTCAAGTCCACAA  
ACTTGGTGCCAAATCTTCTCCCTGGGAAGCATCCCTGGACACTTCCCAAAGGACCCAGTCACTCCAG  
CCTGTGGCTGCCGCTCACTTGTATGTCGACGGCCAGATGAGGGCTCCAGATGGCACATTTGCAGAGGG  
ACACACTGTGGCCCTGTGCCACGCCCTGGGCTCTCTGTACATGAAGCAACTCCAGTCCCAAAATATGTAG  
CTGTTTGGAGGTCAGAAATAGGGGTCCAGGAGCAAACTCCCCCACCCCTTTCCAAAGCCCATTCCTCC  
TCTTTAGCCAGAGCCGGGTGTGCAGACGGCAGTCACTAGGGGGCGCTCGGCCACACAGGGAAGCTGGG  
TGAATGGAGCGACGCGTCTTCGAGAGTGAGGACGTGTGTCTGTGTGGGTGAGTGAGTGTGTGCGTG  
TGGGGTTGAGGGTGTGGAGCGGGAGAGGCCAGGGGTCACTCCAGGATTTCCAAACAGATCTGTGTGTCC  
CTCTCCCCACCCGTCCCTGTCCGGCTCTCCGCTTCCCTTCCCTTCCCTTCAATATTCCTAGCAAAGAGGGA  
ACGGCTCTCAGGCCCTGTCCGCACGTAACTCACTTCTCTGCTCCCTCTCGCCAATGCCCCCGCGGGCGC  
GTGTCTCTGGACAGAGTTTCCGGGGCGGATGGGTAATTTTCAGGCTGTGAACCTTGGTGGGGTCTGAGC  
TTCCCTCTCATTTGGGGGGGCTGCCGGCCAGGCTTCACTGGGCTCCGACAGACCCGGGCCCGAGCCCGG  
TGTGGAGGGCTGAGGCTCGCTGTCCCCGCCCCCCCGGGGGCGCGGGGGCGGGTCCCGCGCGGGCGG  
AGCCATGCGCCCCCTTTTTTTAAAGTCGGCTGGTAGCGGGAGGATTCGCGGAGGCTTGGGGCA  
L mRNA start site

GCCGGTAGCTCGGAGTCTGTGGCGCTGGGGCTAGCACCGCTCTGTGGGAGCGCAGCGGTTAGG  
TGGACCGGTGACGGACTCACCGGCCAGGGCGCTCGGTGCTGGAATTTGATATTCAATTGATCCGGGTTT  
ATCCCTCTCTTTTCTTAAACATTTTTTTTTTAAACTGTATTGTTTCTCGTTTTTAATTTATTTTGTCT  
TGCCATTCCCCACTTGAATCGGGCCGACGGCTTGGGGAGATTGCTCTACTTCCCCAAATCACTGTGGATT  
TTGGAAACCCAGCAGAAAGAGGAAGAGGTAGCAAGACTCCAGAGAGAAGTCGAGGAAGAGAGACGGG

**FIG. 1B**

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GTCAGAGAGCGCGCGGCGTCCGAGCAGCGAAAGCGACAGGGGCAAAAGTAGTGACCTGCTTTTGGGG  
GTGACCGCGGAGCGCGGCGTGAGCCCTCCCCCTTGGGATCCCGCAGCTGACCAAGTCCGGCTGACGGACA  
GACAGACAGACACCGCCCCCAGCCCCAGCTACCACTCCTCCCGCGCGCGGCGGACAGTGGACCGCGG  
GGGAGCGCGGGCAGGGGCCGGAGCCCCCGAGCGGGGTGGAGGGGTCCGGGCTCGCGGCTCGCGGCGG  
GCAC TGAAACTTTTCGTCCAACTTCTGGGCTGTCTCGCTTCGGAGGAGCCGTGGTCCGCGCGGGGAAG  
CCGAGCCGAGCGGAGCCCGGAGAGTGCTAGCTCGGGCCCGGAGAGCCGACGCCGAGGAGGGGAGGA  
GGAAGAAGAGAAGGAAGAGAGGGGGCCGAGTGGCGACTCGGCGCTCGGAAGCCGGGCTCATGGACG  
GGTAGGGCGGCGTGTGCGCAGACAGTGCTCCAGCCGCGCGCTCCCGAGCCCTGGCCCGGGCTCGG  
GCGGGGAGGAAGTAGCTCGCCGAGGCGCGGAGAGCGGGCCGCCACAGCCCGAGCCGAGAGG  
GAGCGGAGCGCGCGCGCGGCGGCTCGGGCTCCGAAACCATGAACTTCTGCTGTGCTGGGTGCATTGG  
L translation start site

AGCCTTGCCCTTGCTGCTTACCTCCACCATGCCAAGGTAAGCGGTCGTGC

FIG. 1C

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CCGGGCTGAGCTCAGTCATTTTGCCCTGAGGACTATAAGTGGACTATTATGCAGCACTTCTTTTATTATTATT  
ACTATTAAGCCAAAGTAAGTCTTAAACAGCTAACACCTGAGCTGGTGGCTCTGAGAAAGCCTCTTCACTCCTTCACGG  
GAGACGGACCATTACATGAAGATCCTACATTGTTGTTTTTTTTTTGGAGGTCGAAAAAGGTCACCTGTTAGG  
AGGCTTCTGGGCTTTGCTCCTCCTCAATTTATTACCCCTCCAGTGGCTGATGACGTACAGGGAGACTTCCA  
CCCGATAATGACATGGCTTTGTTTATTTCACAAATCCCAGCATTTACTGTTAATCAGACCCAGTTTGAACCCACCC  
CCAAAGGGCTTGCACTAAACAGCTCACTTTGCTCAGCCCTCTCCTGAGGTCAGGCACTGTCCTTGCTAAGGCCGA  
CATCAGCTCATGCCCATTTTACAGATGGGAACTGAGAAATGCTAAGAAAGTGAATAAGCTAAGTTATACAACATA  
ACAGGGAGACAGCCTAAACTTGAAACCCAAACCGGAAGCCCAACATGCCCCAAGCCTTCTCGAAACCCAGGACTTG  
GCAAAGCGGGCTCCTGGGGTAAAGCATGGCAGAAAGGGCTTTGGGTCCAAGCTAAGTGAGGGTCCCTGTTCTAGAT  
CACCTGGCCAGGTGCAGTGGCTCATGCCCTGTAAATCCCAGCACTTTGGGAGGCTGAGCGGGAGGATTGCTTGAGCT  
CAAAAGTTTGAGTCCAGCCCCGGGCAATACAGCGAGACCTCGTCTCTACTAAAAAGAAACAAAAAATTAGCTGAG  
TGTGTAGTCCCAGCTACTCAGGAGACTGAGGCTGGAGGATTGCTTAAGCCTGGAAGTTTGAGGCTGTAGAGCTATG  
ATAGAGCCACTGCACCTTAGCCTGGGCAATGGAGCAAGATACTATCTCAAAAAAATAATATATATATAGGTCC  
CCTTGTCCTCTGCTGAGAAAGTAACAGATCTGGAAAAAGATTAGTCACCTTGGTCCAACATAATTTCTTCACATAA  
AGAAAAAAGGCAATGCAGACCTTCCCATGGGGGCAGCTCTGCCCTGAGGCCCTTTCAGAGTACCTCTGTTGTCT  
GCCCCGGGCACAGTGGCAGATTGGCAGGGCAGCTTGCACTGAGGATTGCTGATGGATGAGCTCCTAGTGTAACCT  
AGCCAGCCATTFACTCACAAACAGCTATTGAGCACCTACTATGTGCCCCAGCACTGGAGGTACAACCTGGCAACAACA  
CAAAATCCGGGCTTGCTCCATGGAGGTGACAAATCTAAATGCGGTGGAGGGTCAGCTAACAAAGTGCAGAAGGTTCTCT  
TAAGAGCTCAAGAAGCTCCAACCAAGAGGACTGGGCAGGGGATCCAGAAGGCAATCCCCGAGTGGCTACTCCAATG

FIG. 2A

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GAGTGGCTTCTCCATT CAGGCAAACTGAATGGGATAAGTCATTGGCAGGAAGATCTGGGGCCGGGGTCAATCCAG  
TGGGAAGGGAGAGATGACGGGTCAGCATGGCGGGAACACACAGGAGCAGAAAGGAAGCAGGTGGGAAGCCAGGTCA  
AGGGCCAGGGCACGGAAGGGTCAAGTGCAGATAAGTAGTGCTTCCCTGGTGCATCCTTCATCCGCAATTCAATC  
CTTACCTGTGCTTTTGTGCTCCATTGCATTCACAGCTGAGGAGGCCAGGGCCTGCGGAGGTTGAGAGTGTGCTCAGGG  
AGCCCCGGAGCAAAAGTGAAGCCAGATTCAGATCAGTTCTGTGCTGGGCTGCAGTTCTGGGAGATATATCAGCTGCTGCCT  
CTGTCACTCCCCAGTCAACCAAGCACCTATCCTGTGTGGTGGGCTGCAGTTCTGGGAGATATATCAGCTGCTGCCT  
GCAGCGTCCCTTTGCTGAACTCACAGCAAAATAGGAGAGACAGGAGGGGTCTCTGGGAAGCCCTAAATTGAGCTTGC  
TGTGGGAGTCCCTGGGAAGAAAGGAGCCTCATCCTATCAAAAGCCGGGGGAAGACATCAGAGTCCCTCTGCTCAGG  
TCAGCTGGCACAGGTGGGTCTCCAGGCCCTGGGTCTCACTTCCCCAGAGGGTGTGTTCCGGTGGCCCCAGGCTGAGG  
GAGGAAAGCCCCACCTCCCATGTCTATTTGCAAAATGGGAGTCAGGGACCTAGAGATGGAAGACAAACACAGCAAGT  
GAGGGATGGGTCTTAGTCCCCTGCAACCTTGCAACCTGCACCCCTGGCCAACGATGTCTATTTGGCACCCAGATCTGC  
AGGCTCATCTGGGGGACCCAGGACCCAGAGGCGCGGTGTCATCTCGAAGCTGTGAGCTGCAGCTGCAGCCCCAGGAAGG  
TCCAGGTCGTGGGTGGCGCTGCCCCAAGCAGGCTGCAGGGCCCCAAGGAGGAACAAGATCCTCTCAAGGGGTGCGGAGC  
TGAGGTTCCGGTCCTGCCAAAGCCACTTGATGACCCCCCAAGTGCCCCCTTTCTGCACCTCAGAGAAGAGCCCTCA  
AGCCTCCAGGTCCCTCCAGGGGCACGAATAAGCCCCAGCAGGGTTCTGAAGGGTCCCAGGAATCTCCCTGTGG  
GGATGCGGTGGAGTGGAGAGGCTGCGGTGGCTGGGGACATCTCTGGTCAAGGTGCTGGTGGTATGAGAGATG  
GGGTAGGCACCAAGCCCCCTGCAGCTGTGGCTAGCGGGCTGCAGGAAGGGCCAGGCAGGCTCCTCAGGGACCCAC  
AAAGAACAGGGGTTTTCACACCTAGGTGGGCTGCATCTAGCTAGGCCAGTCCCCATCAGGCCATAATGGGCACAG  
TGGGAGGTAGAACCATGAGTGAGAGAGGGGAGGCTTCCAGAGCCCTGGCCTGGTCCCTGCTAGATTGAGGGCTCT  
GGCTATGGTACATGGATATTTCTGCTGTGGAATCAAAAGGAGCAGGGGATGCTGAATATCCCCCTCTGCCCCCTATGCC

FIG. 2B

CTGCTACCTGTCCCTTACGGAAGGTGTGTGTAGGGGTGCAGGACCAGGCCTCCCTGGGTGCATCTCTGCCA  
CCTTGCCCTTTGGCTCAGGTGGACCTCCACCAGGTATTCAGAACTCCAGCCAGAAACGCCCAAGCCTGTGGGGC  
CAAGACCTAGGGGTGGGGTGGCCCTCCCTCCCGCCTGTAGCCAAGGGTCTCCCTTGCCAGCCAGGCCCCGGT  
GTCCGTACTGCTCTTATCCACCCCTCCTTCCAGGCCGTCTCAAGGCCCAAGCAAGAAACCAAGTTCCCGTG  
AGCCTCCGAAAGGCGAAGGCGAGGCGAGCAGCCGTGGCTTCTGCGCCACTAGGAGCTTCGGATGCCCGAGTTAGG  
GCTGCGCCAAAGGCGCGGAGCAGAGAGGAGACGGGGACGGGACAGGCAGGGACAAAGTGAAGAGGCAAAACT  
GGCTGAAAAGCAGAAAGTAGGAGCCGCCAAAGGGCGGGACGAACAGGTCCGTGGGCCGGCGGAGCCAAAGGTGG  
GGCCGGGGTCCCTCCAGGTGGCACTCGGGCGCTAGTCCCCAGCCTCCTCCCTTCCCCGGCCCTGATTGGCAGG  
CGGCTGCGACCAAGCCGGAACGCCACAGGCCCGGGCGCCAGGAGAACCGAAACGGCCCCCGCGGGAGCGGG  
CGAGTAGGAGGGGGCGCGGCTATATATAGCGGCTCGGCTCGGCGGGCTCGGCGGCTCAGGGAGGCGCGCAC  
TGCTCC**TC**AGAGTCCAGCTCCAGCCGCGGCTTTCGCGCGGCTCCATGCAGCCGGGTAGAGCCCCGG  
LmRNA start site  
CGCCCGGGGGCCCGTCGCTTGCCCTCCGCACTCCTCGTTGCCACTCCCGCCCGAGGTCGGCCCGTGCGCTCCC  
GCGGGCCGCCACAGGCGCAGCTCTGCCCGCCAGCTTCCCGGGCGCACTGACCGCTGACCGACGCGCCCTCGG  
GCCGGG**ATG**TCGGGGCCCGGACGGCGCGGTAGCGCTGCTCCCGCGGTCTGCTGGCCTTGTCTGGCGCCCTGGG  
L translation start site  
CGGGCCGAGGGGGCGCGCCGACCCACTGCACCCAAACGGCACGCTGGAGGCCAGCTGGAGCGCGCTGGGAGAG  
CCTGGTGGCGCTCTCGTTGGCGGCCCTGCCGTGGCAGCGCAGCCCAAGGAGCGGCCGTCCAGAGCGCGCGCGC  
GACTACCTGCTGGGCATCAAGCGGCTGCGGGCGCTCTACTGCAACGTGGGCATCGGCTTCCACCTCCAGGCGCTCC  
CCGACGGCCGATCGGGCGCGCACGGGACACCCCGCACAGTAGTGGCGCGGCCAGGCGCGAAGGGCGCGGGG

FIG. 2C

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CGGGGGCAACGGCCGCCGGGCCAACCCGCTCAGTCACACTCTGAGACCTCGGGGGCACTGCTCGGGGGCCCC  
GGGAACCGGGCGGACTCGGGCTCCGGTCCCTTCTGACCGGGGCTGGGGACCGAGACACTCTTGCTCCGGCAGC  
CCAGCGCAACCCCTGAGGTCGGGCGCCGCTCCCGCTTCAGAACTCGGGCTCCGAGCGCCGAATTCAGCGCCT  
TCGCCCCGTGGGCACAGGGCGCGGGTGCAGCCACAGGGGGCCCGAGACACGCGCCCCGGCCCTGGCCCCAGGCTGGG  
AACCCTGGGGTCGGGCTCGGCTCTGAAGTCCGGACTGGGTCCGGCCCGGGGGTCCCCACACAGGCAAGCT  
AATCTAGCTAGCGAGGCTTGGGCTCCGGAGGCCCTAGAGGCGAGCTTGGGCTCTGGAGGCCCTTGGGGGCGGCT  
GCGCCGGGAACCCCTGGCCCTTTATCCCCAACCCACCCCAAGAAATAGGTTCCCCGGAGGCGAACAAGCCGAGGGC  
GGAGTGGGCCAGGATCACCTGCCCCGCAATGACCTGCGCCCCCGCCCTGCTGGAGCTCTGCCCCGTGGA  
GCGGGCGGTGAGCATCTTCGGCGTGGCCAGCCGGTCTCTCGTGGCCATGAGCAGCAAGGCAAGCTCTATGGC  
TCGGTGAGTACCGCAGGGTCTGGCTAGGCACCTAGTTGGGAACAGCGGACATGGCTAGCAGGCTCGTGGCTTCTC  
CAGCCCCACCTGTGCTGGTCTTGGAGGGTGGCAGGTCACAGGTCACGGGACCGGCAGGCCCTCCCCAGACAA  
AGGAAGCAGCCCCAAGCAGGAACAATGAGTTCTTGCCATCCCTGAGTGGGCCCTCCAGACCGAGGAAGGGC  
GCTATTGAGAGCCCTTCCCTTCTCTAGTCCAGAGGGTAGGTCTCAGTGTGGAACCTGCGGGCTTGAGGCTGGACA  
CGCAGGGAATGAATTCTCTGGCTGCTAGGTGCAGGGCAGGTGGTGAGAGCACCAAGCTGTTGTGGCTGGCCATGTC  
CCCTTCTACCCCTGTGGTCTTGACACCTTAACCTGCTCAGCAGAGACATCTCAGCCCAGGGTGGGGGTGGGAC  
AGAAGGGGTCTGACCCCTGGCTTCAGGCTGGGTACCTTGCCCCAAGAGGTGCCCCAGCCCTGACACTGCCCTGCT  
TTGCTGCAGCCCTTCTTCAACCGATGAGTGCACGTTCAAGGAGATTCTCCTTCCCAACAACCTACAACGCTACGAGT  
CCTACAAGTACCCCGCATGTTTCATCGCCCTGAGCAAGAAATGGGAAGACCAAGAGGGGAACCGAGTGTGCCCCAC  
CATGAAGGTACCCACTTCCTCCCCAGGCTGTGACCCCTCCAGAGGACCCCTTGCCTCAGCCCTCGGGAAGCCCTGGG  
AGGGCAGTGCCGAGGTCACCTTGGTGCACTTCTTCGGATGAAGAGTTTAATGCAAGAGTAGGTGTAAGATATTT

FIG. 2D

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AAATTAATTATTTAAATGTGTATATATTGCCACCAAATTATTATAGTTCTCGGGGTGTGTTTTTAATTTTCTGCGG  
GGGAAAAAAGACAAAAACAAAAACCACTCTGACTTTTCTGGTGCAACAGTGGAGAATCTTACCATTGGATTTC  
TTAACTTGTCAAAAGTTGTACGAGTGTGCTGCTATTCTGTGTTTTTAAAAAAGGTGACATTGGATTCCGATGTC  
ATCCCCGTAGTATGGCGTGGAGCATCTCTGTCTGGAAGGCCCGCTGAGGCTTGGCAGCCAGTTTCAGGGAGCT  
CCCAGGCTTGGCTCTCGGCTAGCATCCCTCAGAGGCCCACTCCCTTTGTGCCCCCTGTTGCTATTAATCGGGACATATC  
GGTTACTTTCGGGTACAGAAAGTGGGTGTTGAAGTCCCTCGCTGCCACTCTGTTTTTTAGATCTGCCAAGACTTGACC  
TTTGAACCTTTCCTGTAGTCAATCTTCTCGATCTACCAGATGGGAGAGACCCCTTGGACAACTTTATAAACTCCTGT  
TTGCCCTTTTGGATCAGCGACAGCCCCCATCGCTGTGACTATTGGGAAAAAGACGAAGCTCTTTTCATAAAATTCCA  
TGGAGAGGAATCAATATCCCACTGGAAGGCTAGAAATGGACAAGATAGTATTGCAATCACAAACAAAAACCCCTA  
GTGATGAAAAATAATTGTGATGGCAGATGCTCTGATGGTGTGATAGAAATATGTTTTTGAAAAACAAACCATCGAA  
CCCCCGCCCCACCCCCAAACGGGCTTCCCCTGTGTTTAGGGAGCTTTGGGCTAGAACTAGCTACGATTTTTAGGT  
GAAATGTCCCTTGTAATTGTACAAAGCACTTGGTGCAGTGTTTGCGTGGAGCAGCCTGCTGCTTTCTGATGCATTCC  
CTGTTTAAGTGCGTTTAAACATCTACCTCACAAAGCCCTGAAACCCAGGCAAAACCCACAGAAAGCTCATACCCGGT  
GCAGGAGTTTGCCATCCCCAAGTGGCTTTTTTCCATATGTAGCCAAAAAGGATTGCAGATAGCGTCGGTCCGTCCC  
ATTGGAACCTTGTACGTTTGAGCTATCTTTACCCCTGTGATTACTTTTAGTAAGGTGATCATGGTGAAAAATATT  
TGCAGACAGCTGTTACAGTACACTATATGGTCAACCAAGTAACCTTATATTTTCTTTATATATTTTACAAATGTAA  
CCCCGTGTCATTGAAGCAACCGTGGAAAGGCGAGGTCGGTGATGTTTAAAAAAAGTTCGAGGTGATGGCAACAT  
TTAATTTTAAATGAATGACTTTTTTAGAGTTTATACAAAAATGACCTTAGCTTGCTACCAGAAATGCTCCGAATGTTTC  
GTCAAGACTTTAATACTCTCCTAGGATGTTTCTGAACTGTCTCCCCGAATTAACTTTATGGGAGTCTACAGACAGCA  
AGACTGGAATAATCTGATGGAGTTTTTGTCTTTTCACATTCCTTTTGAAAAACTCTTTTGTTCGAAATGCAAAATCATCGA

FIG. 2E



CTTAAATACTATTCTTAACCAAGGCCCTGGAAGAAAGACACACTTGCAAAGCCGCTAAGACAGGACCAACACATCT  
TAAACTGCTGTTCCCTACCATGCACATAAACTGTTTAAAGTTTAAACCAACACCTAGGCTCCAGGAGTGTTCAGGA  
AAGATGGTGTGTGAGGCTCTCCATGCTGTTTGGCGTTGGGGGTGTGGAGGGATCATCCGTCGACTTTCCTGAATTT  
TAATGTATTCACTTAGTAACAACCAATGATTGTCTTAAATGCCCTTAAATTATATGAGATTCTTGTCTCAGAGCC  
CAATCAGATTGTCAGGAATTAAACATGTGTAGGTTTGATCACCCCTTGACCACCTCTTATATAGATATTCTTCAACAA  
ATCATGTGTGATGCCCTGTAGGAACACAACTGTACCTTTAAAAATATTGTTTTCATATTGCTGTGATGGGATTCGAG  
GTTCCCTGATGTGCCACTGTTTTCAGAACTCTGTAGTTTATACAGGTGCCGACCCCTCGTTGTGATGTATGTGCTGT  
GCACATTGACATGCTGACCGACAATGATAAGCGTTTATCGTGTATATAAAAGACACCACTGGACTGGATGTACACAA  
CTGGGAAAGGAATTAAAGCTATTAAAAATTGTGCCTTGAAATGC

FIG. 2F

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AATGGTATTATAGGGTAATGAGTATCCATCTAGTATTTAAAGTATTTACATAAAATTCAGTACTTAAAGTAATCTCT  
TTACAAGTATTTTATCAAAAACCTTTTCAGACACAAATTTTGGGGATTATTTCAAACTGTTTAAACACTTAAGAAG  
TACTGGCTTACCTTGGAGATACTGCTCGTTTGGTTTCAGACCCTGTGATCAAGCAAAAATCGCAATAAAGCAAGT  
TACATGAATTTTTCGTTTCCAGTGCATATAAAAGTTACACAGCAGACTATTAAAGTGTGCAACAGCATTATG  
TTTAAAAATGTCCATACCTTAACTTAAAAATACCTTATTTGTTAAAAAATGCTAACGATCATATAAGCCTTCAGCGA  
GTGATAATCTTTTTCGTGATGGAGGGTCTTGCTTGATGTTTCAGAGCCTTGCTGTGGCTTTGGCTTAAAGCTTAAAGG  
GAATATTGCAGCTGGTTTGATCTTCTATCTAGACTGCTCAAAATTTCTGCATATCAGCAATAAGGCTGCTCTGCTC  
TCTTATCATTTGTGTGTTCACTGGAGTAGCACTTCTAACTTGCTTCAAGAACTTTCTTTTGCAATTTGCAACTCGG  
ATAACTGGTGCAAGAGGACTGGCTTTTGACCTAACTCATCTTTGGGCATGCCTTTCCCCAAAAGCTTAATTTATTT  
CTAGCTTTTGATTTCAAGGAAGAGACGGCAACTCTTCCTTTCACCTTGAGTACTTAGAGGTCAATTCAGGGGTATC  
AATTGGCCTAATTTCAATAAATGTTGTGTTTAGGAAAATAGAGAAAGCCTGAGGGGAGGAGAGACGGGTGAACAG  
CTCGTCAGTGGAGTAGTCAGAAATACACACATGAATGGATTAGTTGGGTTGTGGTTTGTGGTCCCCAAAACAATT  
ATGGCAGTAACATCAAAAGATCACTGATCACAGATCATCATGTAAATAATAAGGAAATATTTGAAATATTGCAAGA  
ATTACCAAAATGTGACACGGAGACACAAAGTGAGCACATGCTGTGGGAAAAACGGCACCAACAGACTTGCTCAATT  
CGAGGACACCACAAAACCTTAATTTGTAAAAACACATTATCTGTGAAGTACAATAAAGTGAAGGCAATAAAATGAT  
GTATGCCCTATGTAAGGCAATCAGTAGATGATGGGAAAAAAACATTGCATGATTTAGAAAAAAACAAAGAGAAATATGT  
TATCAAAATGACTAAACTAATAGCATAATTAGAATTTTCATTTGAGTATTTCTTTATAGTTTGTGAGAGATTAAAAAT  
TATGTATTATTTTATAAATATATATGGAGGATCTCCTATATACCCAGTCTCAGACTTATTTTGGTGATTATACTCT  
GGAACATGTGATTCTTCTCCTCGTGGGGTTAAAAAAATTTATACCATCCTATGGGGTATGACTAATCTGAATCTCA  
CACTTGAAATATTACTTTGGGATCTTAGGCAAGTTATTAGAATAAAAAATAACTTACTATGTTTCTCCTCAACTATAA

FIG. 3A

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AATGAGAAATTTAATAATCTTAAACTTACTGTGAAGGATGAAATAATTTCAATAGTATGTAATATGATGCTTAGCA  
TACATTAAGATCTCAGTGTATATTAGCAACAATTTTCAGTAAAGAAAGACCCAAATAATTTTGTCAAGAAATATGAA  
TATATAAATTATATAGGTTTAAAGTTGTATTTACCATAATTTAATGTGACAGTAAAAAAGTCACGAAAAATGTGTGA  
CCTAATAAGTTTATTCAGTTTCTAATGTCCCTGAACCCCTTATCTCAGATGGATTTTGTCTCCAAACTTATAACAAT  
AATTACAAACCCCTGACTCTAGTTTCTTCTGAGAGAAAAAATAAATAGAAACACTGTTCTTTTCTTCTCCCTTA  
CCTACAGGAATTTACTTACAGAAAAATCTAACTTCTTTTAAAAACAGCCTTAATCCCTTGTGGGCCAAGGAAAA  
CTTTTCCATTGTTCTCTGAAGGTTTGTCTAAAAAATAAATACTGTCAAGAGGCAGATCAATAGAAAGAAAGGCATA  
CACATTTATTGATCATATAATTTTACACAACCCGAGAGCCTTTAGAACAAAGACCCAAAGTTACAAAAAGAAATTGTC  
CATTTTATGCTTAGGTTCAACAAAGTGTGGGCAGGTGTGGAGAAAATACAACCTGGACAAAAAGGAATATGATCTCAT  
GCTAACAGACTGAGTGGGGACGCCCTGGCAAGGTGAGATTCTTCTCGTATCTCTGTGCAGTACTCATTTCTCTCTGG  
GTATGGGGCAGGACCTTCTTTGGAAATGGGGTCTTATGAGCTACGATCAAAACAAGGTAGGTCAAGATAATGTCTTTAT  
GGCCAGATTTACACAGAAAGTTGAGGTGTAGAGTGATATGCTTAGGTTTATGGCTGGTTTGGGAAAAAAGGGTT  
CTGGTTTCTAGGAGCCACCTTGGGAAAGAGGGATTCTAGTTTCTATGCTCGCCTTGGGGGAGAAATGAAGGGCCGG  
AGACTGGAGAGCAGGAGAAAGGTCAGAGAGAGCTGATTCTGAGGTCTTCAATTTGGGGTATCATTTTCTGAGCCCT  
ACACCCCTAATAAAGCACAAAGAGATGCAGTGGAGCAATTCAGGGTCACGGTCAGGCTATGCATTTGAACCTGAGATTTC  
CCAAAAAGTCTACTGAACAGTAAAAAGAAAGTAAATGGATCCTGGGGACACCCAGACAGAGGCTGACAAATGATTT  
TTAAGTAAGGAGAAAAATGATAAAGAGAAAGGATTAGCAATAGAAACGGGTCAATAAAATAGATCCCTCAAAAGGA  
ATTCTCTTAATCCCTAGCTTCTCTAGATATATCCACAACTCAGGGACTTATCAGGCAGGTGTTTTTCCCTGAAAG  
TGGGGTAAGGAGCTGGAGGACAAATGAAGGTGGTATGTGGAGGGAAAGGCTGTTCTGTGGATGAGTTAATTCAG  
CCCCACAAATCACTTCTGTACAGCTACCCACCGCTCTAGTCAATTTCCACATTTGGCCCTGCTTTCCTTTCTCTGTGG

FIG. 3B

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ACAGGGGCACTGTTCTCTACTAATATCCATCTCAGAGAGATACAGGGGCAAGTATCCCTCAGCATCCATTAGAAAT  
AAAGCAGGCTCTTGGCTTAAAGTTACCAGAGCATCCACCTCTGGGTGCAAGACAAAATTCTCTGAATCAAGTGAGGG  
GTCTGGGCAATGATCTCACAAAGGATTTGATACCTAGGAGTCCCCCATGCCATACAAAGCTCCTCATCTTCCACT  
TACACTTTGGGAAGCTGGCTGTCGTGTACAGGCAGATGAAGCTGGAAGAGAGAGGCATATTTCAGTACTCACGAATT  
CAACACGCTTGAGGGATTTCCGGTGAAGTCAGTCCCTAACAGTGTATACGTATACATACACCAACATGTGTGAAT  
GTGTTGTGTGCACGTGTGTCCTGTACAAGTCCACATGGCATATTTACCTGTACAGGACAGGCTATGGACAATGAC  
TGTTTCTTGGACTTTCTCTTAAAAAGTCAGATCAGACAAGTTTATTTGTATACCTTTGGGTAATGTGTGGTATTT  
CGTGAGTTTGGCAGTTTGTGAAAAAAGTGTGAAAAAAGCTGCCTGCTCTGAGCCCCATGAGGGC  
AGGGGCAATTTTTCATCTGACAATCTGCGTGTCTTTTGTGCTTATTTTGGCCCCACAAATACCACACCCCT  
TTTCTTAACCTCTTTCTACCTGGCTGGACGTGCCCTGGCTCTCCTCCCTGGCCCCGCTCCACCTCTCTCCCA  
GGTCTCTAAACCCCTAGAGAACCTGTGTGAGTGTGTAATCCCTCAGTTGCTCTAGCAGGAAAACTAGACAGATT  
AGGAGCTGGGGCACATTTGGCTGAAAGACAGCTCTTCGCTTTCTTTATGCTGCTTCCCTTCTCTTTTCCCAA  
ATAGATATAAACAACATGTATTTTCTGTTTAAATTGAGCGAATTGGTCCCCCTGCCCTGTGCCCTTGATTAGCCAT  
TGGGCTCAGCCTTGCTCCTCCCTTCTTACTCGGATAGGAGCCACTGGGATCTGGAGCTCCAGCTTCCAAATTGAA  
GCTGGCCTCAGGCCAGGTGACCTTTTCTTTGTAAAGTTTCTTTCCCTAAGCGTGGGTGGGGGAGGGGGAATGG  
GGGGGTTGCAGGGATCTGTTTGGTGTGTTGAAGGGGGGCGAGTGAGGAAAGGAGGGGCTGGAAAGAGAGTAAA  
GGGCTGTTGTAAACAGTTTCTTACCGTAAGAGGGAGTTCAGACCTAGATCTTTCCAGTTAATCACACAACAACCT

FIG. 3C

**FIG. 3D**

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GCAGGTTATCATGCTTGACATGTGTCAATGCTTACAGGGTCGGGTGCGGTGCTCAGCCTGTAATC  
CCAGCACTTTGGAGGCCGAGCGGGCAGATCACGAGGTGAGAGATTGAGACCATCCTAGCTAACAAAGGTGAAAC  
CCTGTCTCTACTAAAAATACAAAAAATTAGCCAGGCGTGGTGGCAGGCACCTGTAGTCCCACCTACTTTGGGAGGCT  
GAGGCAGGAGACTCTCTTGAACCTGGGAGGTGGGGGTTGCAGTGAGCCGAGATTGTGTCAACCGCACTTCAGCCTGG  
GGAACGGAGCAAGACTCCATCTCAAGAAGAAAGAAAAAATGCTTCACAGATGACTGCTGGTTTAGGGGATTTT  
GAGCTTAAATGAAATAATGGCTAATATTTGAGGGTTTTCATTTTAAAGATTAAAAATGTCACCTGTTCTTAAGTA  
GAATCTGGTTACCTGAATTCATCTGTGCTAACGCAAGGGGAACGCAGTGTGGAACCCCAACAGTAGATCAACCG  
TAGGCAGTGTCTATTTTTCGGCATGCATTAATGAACCTTTTGGCAGGAGACATACATTTGTAATTATATTTCACT  
TTGCCCTAATGTAGAAATGACTGTGTTTCCCTGAGTACAGGCAGAAATGCAGCCCAAGAGTGTGGCAGGCAAGGAGAG  
TCCAGTTGGGAATTACAAATATGCTGTGAATAATTCCTGAAGTGGATAATCTAAAAATTTGTCAATCAAAAGGAGGGTG  
CGCCTTTGTTTAGATGGCCAGTTTGATAGTTTTTTTAAACCTTTAAAAATAAAAAATATGGGTAGCCTCTTAGA  
ACACACAAAGTTTGTCTTTTTTAAATGACATTTAATATGACTATTTAGAGGTTTCTTTTGTGTTACTAGCTTT  
GATTATAATTATTTATCTATGAATTTATATTTGTATGTATTGTAAATAACACATTGTTAGGAAAGAAAGTATATA  
CTGTAAGTTGACAAACCAGTTATCAACAGAAATACACTATGGAGATACCTTTTAAAGCTTAAAGAAATATTCAATAT  
AATGGGCCCCCGCCATCTTTGTAGGAGTTAGCCTATATAGAATTACCCCTCTATTCACTCCCACTACATGGGAAAC  
AAATATCCAATCCCTCTGTAATAAAAGAACATTAAATGAGCACCTAATATTCAAGAGTATGTGGGGGATGTAAAGA  
TGAACAAATAAGAAAGGAACCTTAAATTTGTTGAGCAACTGATATGAACCAAGTAGTAAAGTACATCTCACTTAATT  
CTAATAAG

FIG. 3E

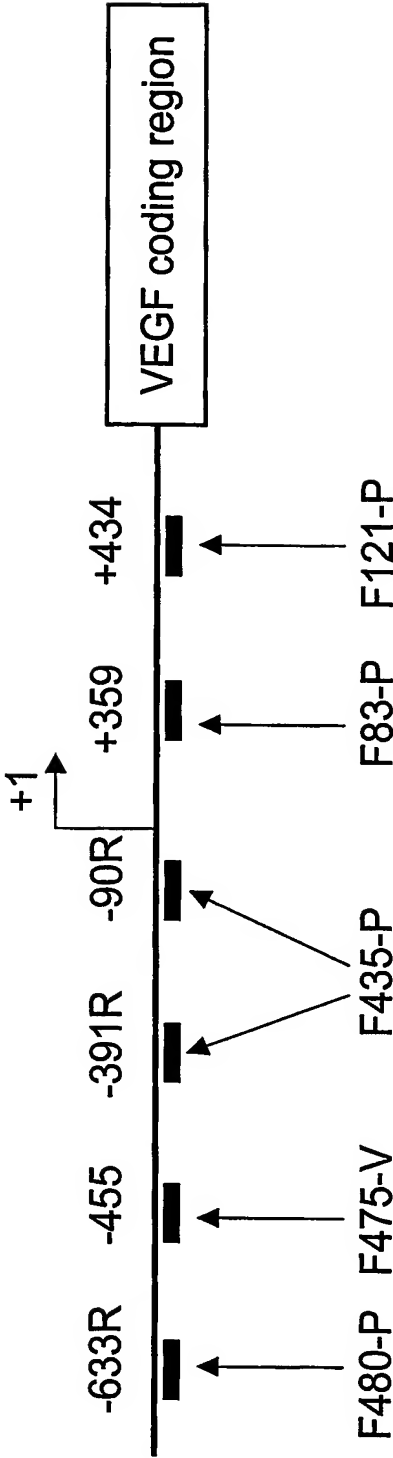


FIG. 4

FIG. 5A

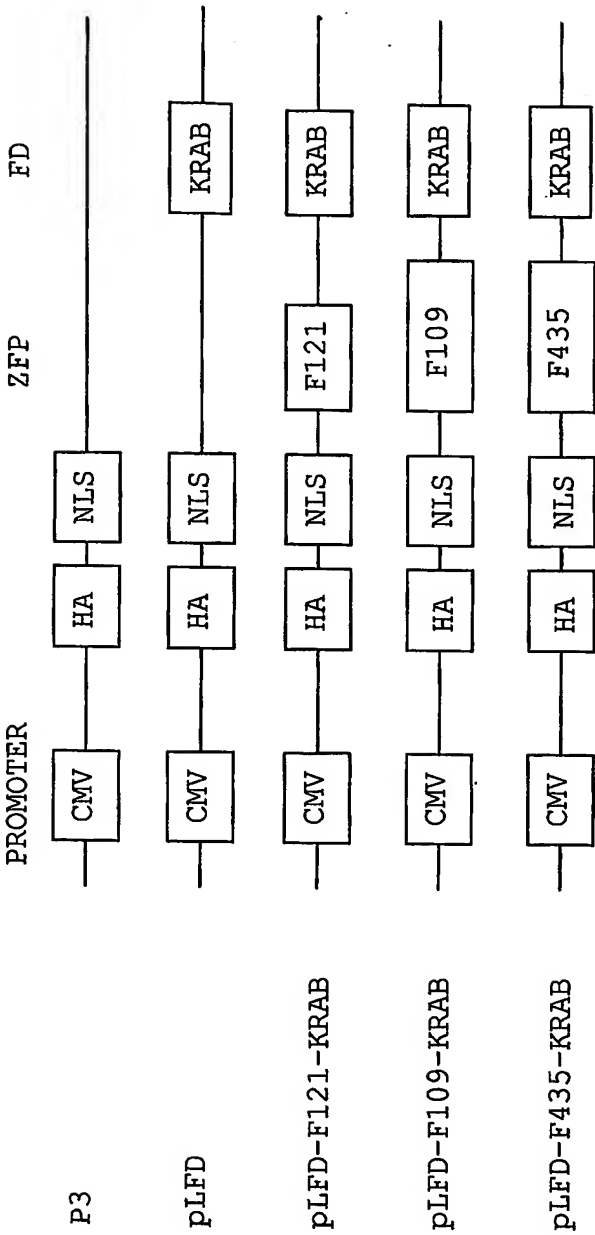


FIG. 5B

